

Item	Qty -245	Part Number	Description
1	X	D412-664-245	CROSSTUBE ASSEMBLY (412 LOW-NARROW AFT)
2	1	D6009-129	CROSSTUBE
4	1	D2896-1	SUPPORT
5	2	D3189-1	CHAFING SHIELD
6	2	D3595-063-570	RUBBER CUSHION
7	2	D3606-1	CUFF
8	44	CR3212-4-07	RIVET (OR M7885/3-4-07)
9	4	MS21920-28	CLAMP
10	2	MS21920-30	CLAMP (OR MS21920-32)
11	A/R	SCOTCH-WELD DP460	EPOXY ADHESIVE, 3M SCOTCH-WELD
12	A/R	PROSEAL 890	SEALANT, MIL-S-8802 CLASS B2
13	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 123.588±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D412-664-245" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 40.0 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.

MACHINING

- 10) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.

BENDING

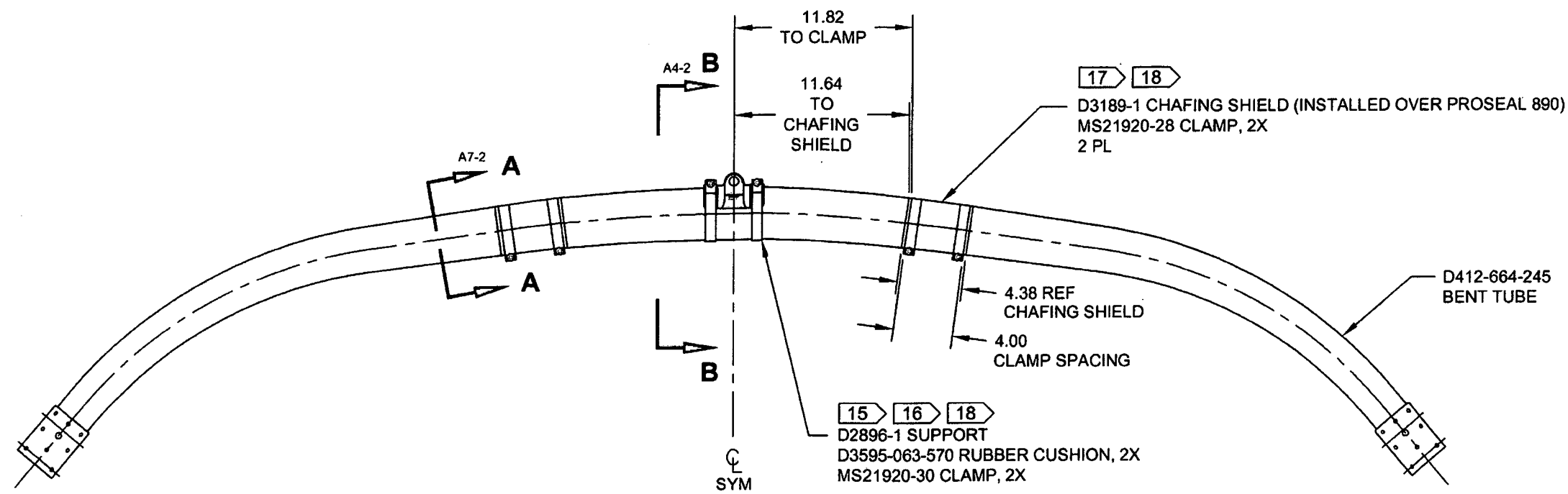
- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
- 12) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.

ASSEMBLY

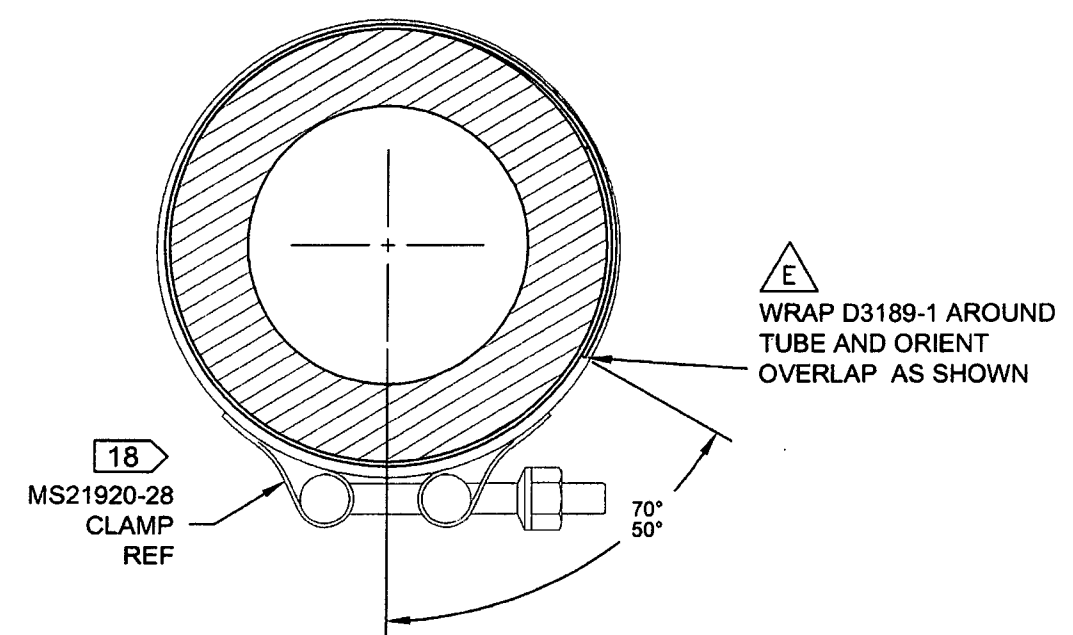
- 13) INSTALL D3606-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
- 14) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.
- 15) INSTALL D2896-1 CENTER SUPPORT USING A 0.04" TO 0.07" THICK LAYER OF SCOTCH-WELD DP460 PER QSI 015.
- 16) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE ON TOP SIDE OF CROSSTUBE.
- 17) APPLY A THIN COAT OF PROSEAL 890 ON INSIDE CONCAVE SURFACE OF D3189-1 CHAFING SHIELD AND LET CURE PER MANUFACTURER'S INSTRUCTIONS. INSTALL PROSEALED D3189-1 CHAFING SHIELD ONTO CROSSTUBE BY APPLYING A THIN COAT OF PROSEAL 890 ONTO CROSSTUBE. BE SURE TO ELIMINATE ANY AIR GAPS.
- 18) TORQUE CLAMPS ON D2896-1 SUPPORT 80 TO 100 IN-LB. TORQUE CLAMPS ON D3189-1 CHAFING SHIELD 40 TO 50 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER ADHESIVES HAVE CURED FOR 24 HOURS.

RELEASED
2014-05-26

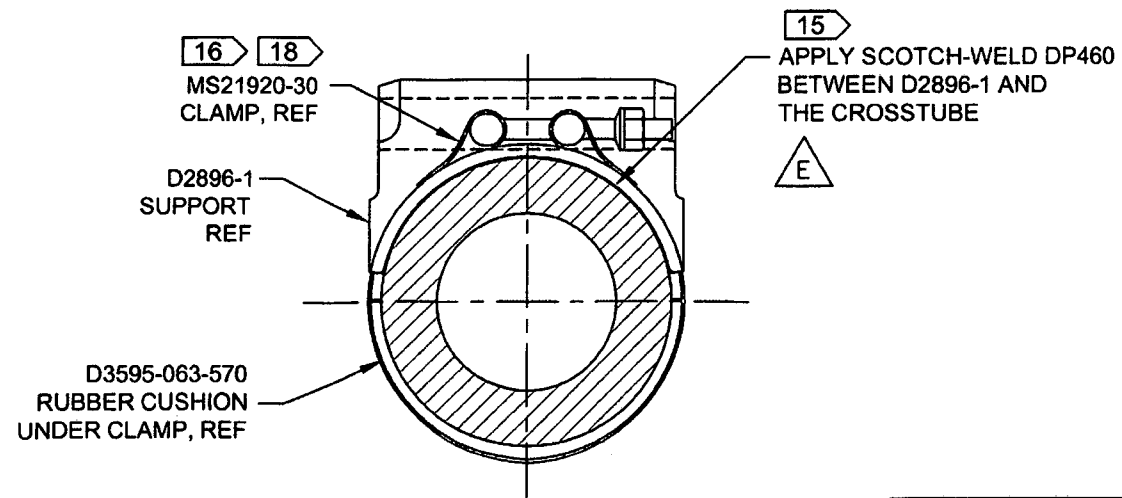
E	SCOTCH-WELD WAS MAGNOBOND (C8-1), REORDER NOTES, AMEND NOTE 16: ADD 72HR CURE & RETORQUE, CLAMPS REVERSED TO PREVENT CHAFING (B5-2), HEIGHT TOL ±0.25 WAS ±0.13 (C2-3), INCORP DEO D-1/-2/-3	CP	14.04.01
D	REVISE GENERAL NOTES; UPDATE TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 08-046 (ZN A7-3)	RF	09.09.30
C	CHG RIVET AND RUBBER CUSHION	CP	07.03.29
B	CHG CUFF AREA, CHG RUBBER CUSHION	CP	07.03.01
A	NEW ISSUE	CP	06.12.01
REV.	DESCRIPTION	BY	DATE
DESIGN	q	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	q		
CHECKED	DW	DRAWING NO.	REV. E
MFG. APPR.	W	D412-664-245	SHEET 1 OF 4
APPROVED	W	TITLE	SCALE
DE APPR.	W	CROSSTUBE ASS'Y (412 LOW-N AFT)	NTS
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**D412-664-245
ASSEMBLY DETAIL**






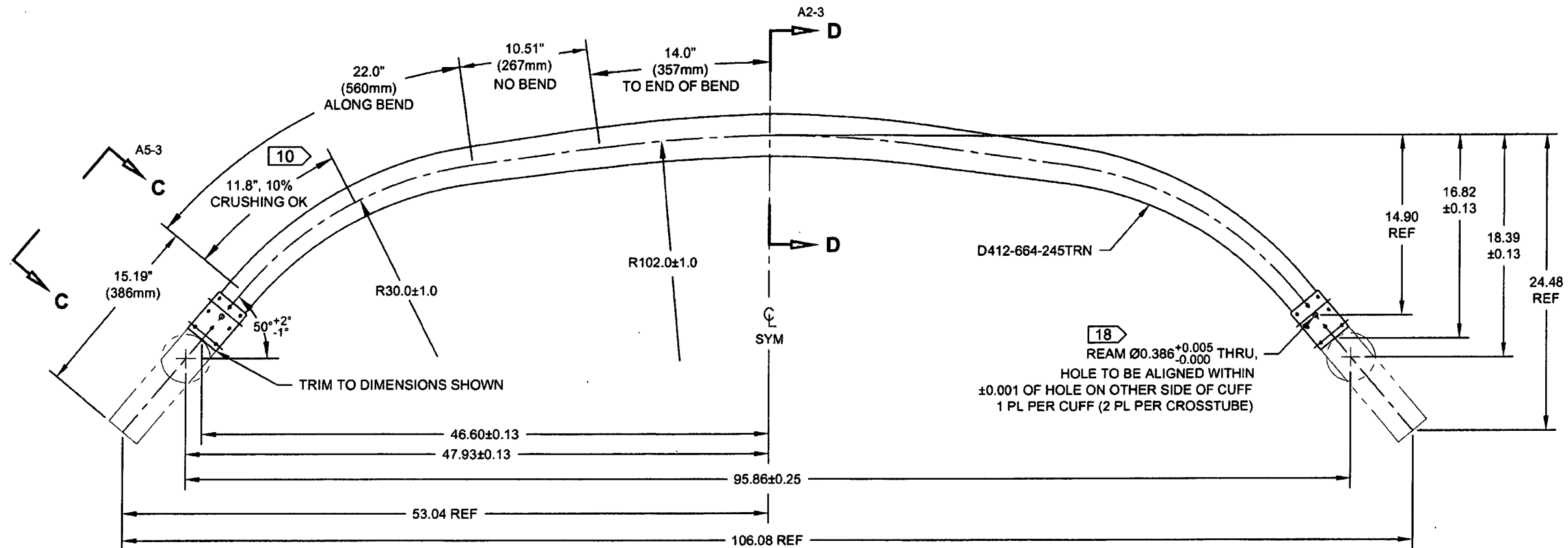
SECTION A-A D6-2
SCALE 6X



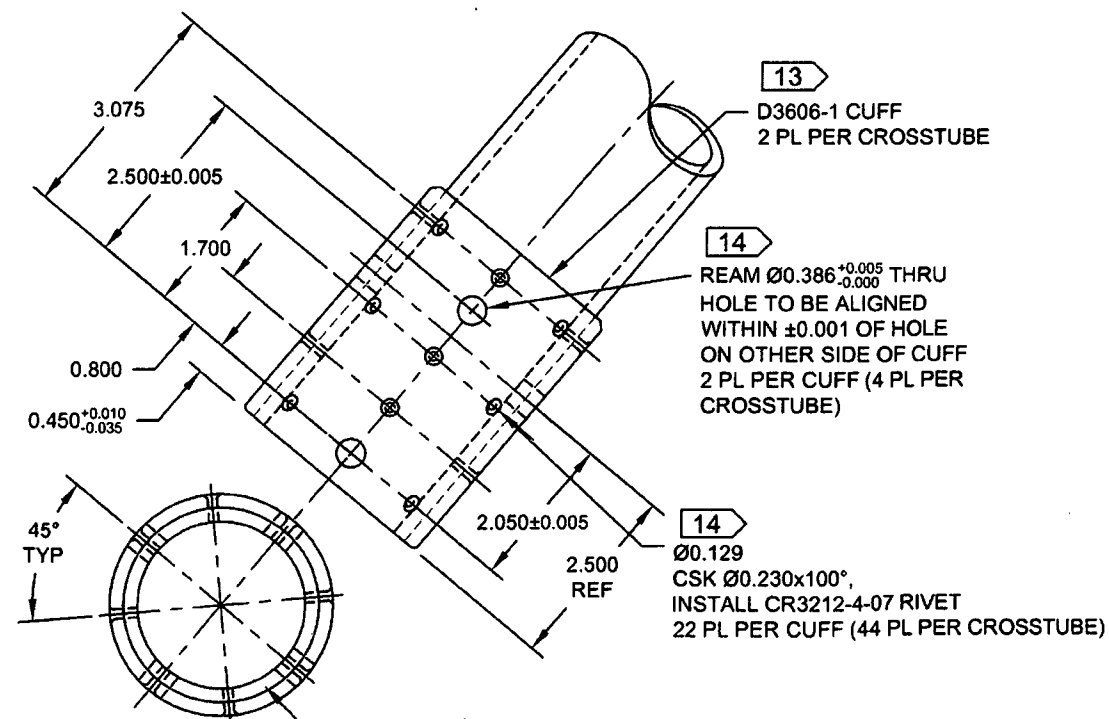
SECTION B-B D5-2
SCALE 4X

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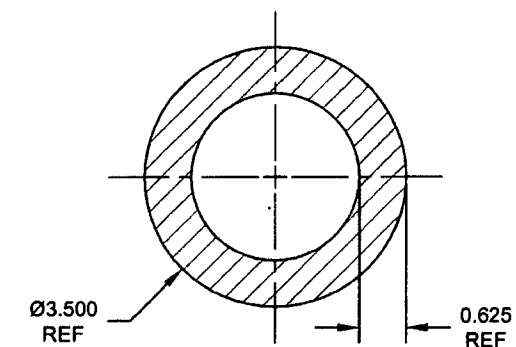
DESIGN	qp	DART AEROSPACE LTD	
DRAWN	qp	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. E
MFG. APPR.		D412-664-245	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (412 LOW-N AFT)	NTS
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D412-664-245
BENDING AND DRILLING DETAIL



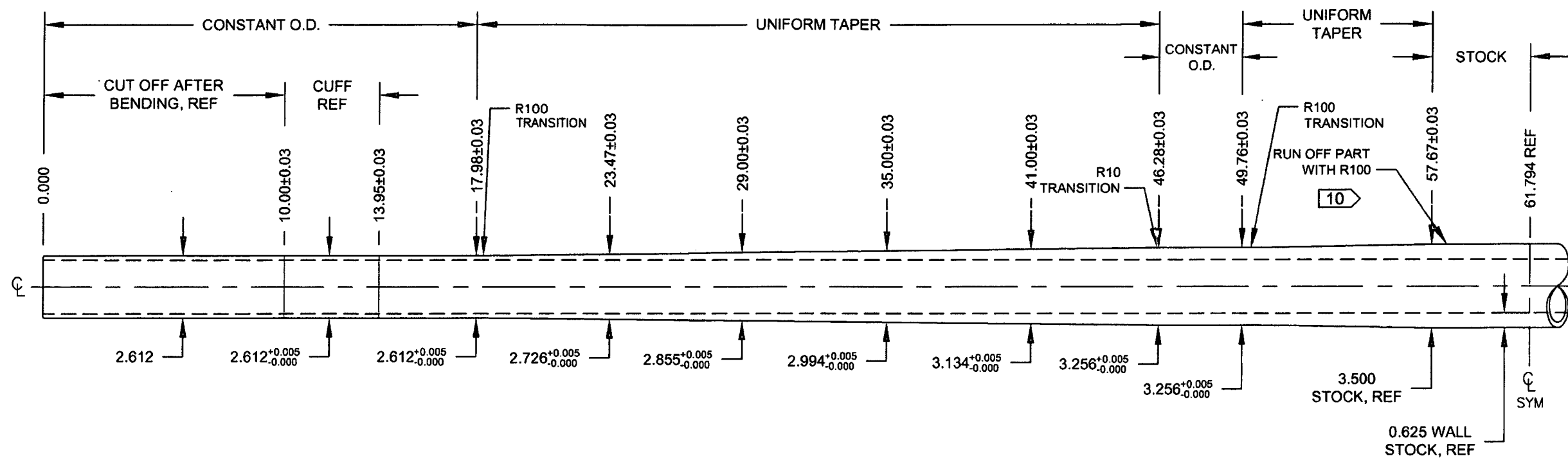
VIEW C-C: CUFF DETAIL D7-3
SCALE 4X



SECTION D-D D4-3
SCALE 4X

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2014-05-26
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DESIGN	<i>q</i>	DART AEROSPACE LTD	
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CHECKED	<i>DW</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>[Signature]</i>	D412-664-245	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE ASS'Y (412 LOW-N AFT)	NTS
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D412-664-245TRN
TURNING DETAIL

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 2014-05-26

DESIGN	GP	DART AEROSPACE LTD	
DRAWN	GP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DW	DRAWING NO.	REV. E
MFG. APPR.	MA	D412-664-245	SHEET 4 OF 4
APPROVED	MT	TITLE	SCALE
DE APPR.	MT	CROSSTUBE ASS'Y (412 LOW-N AFT)	NTS
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